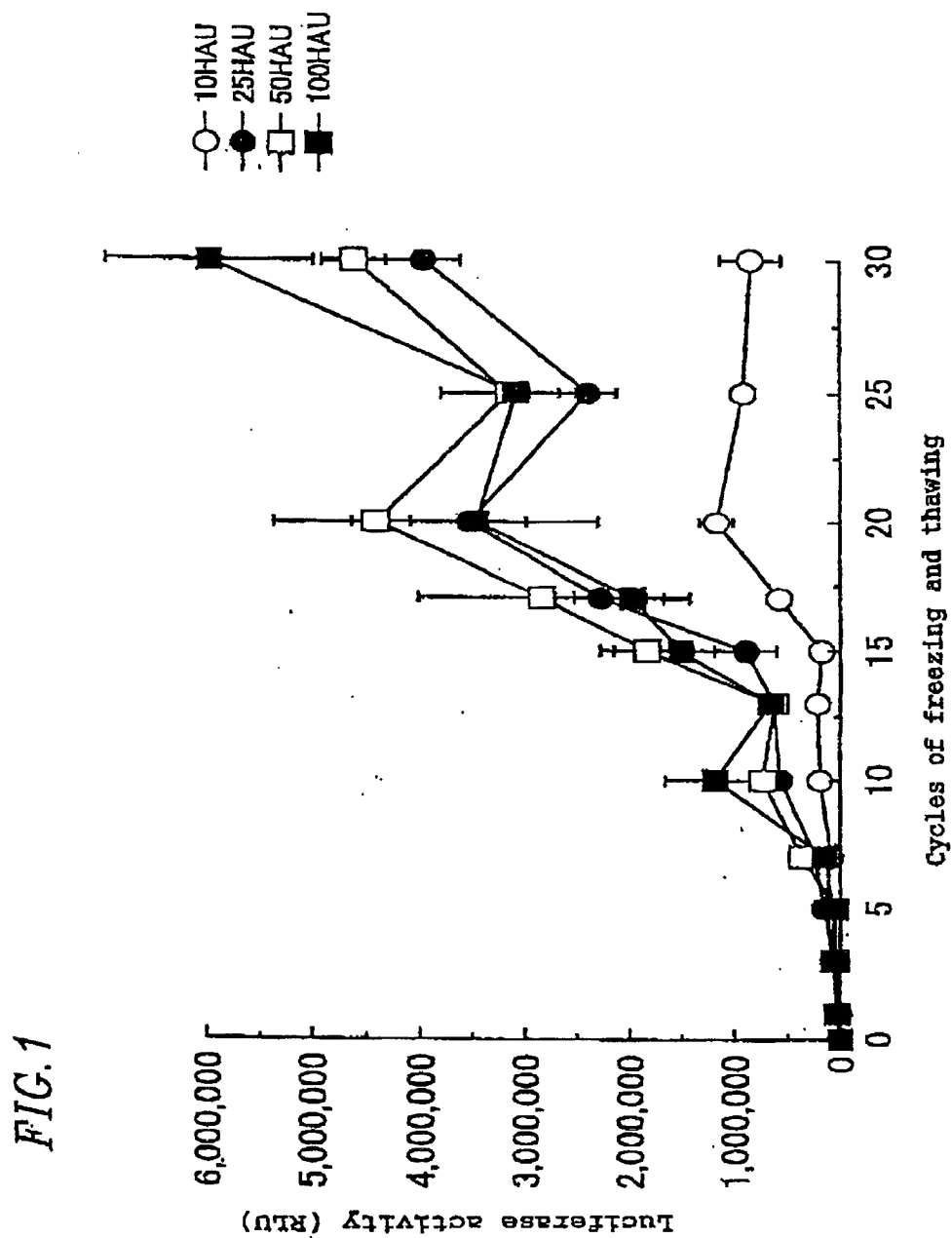


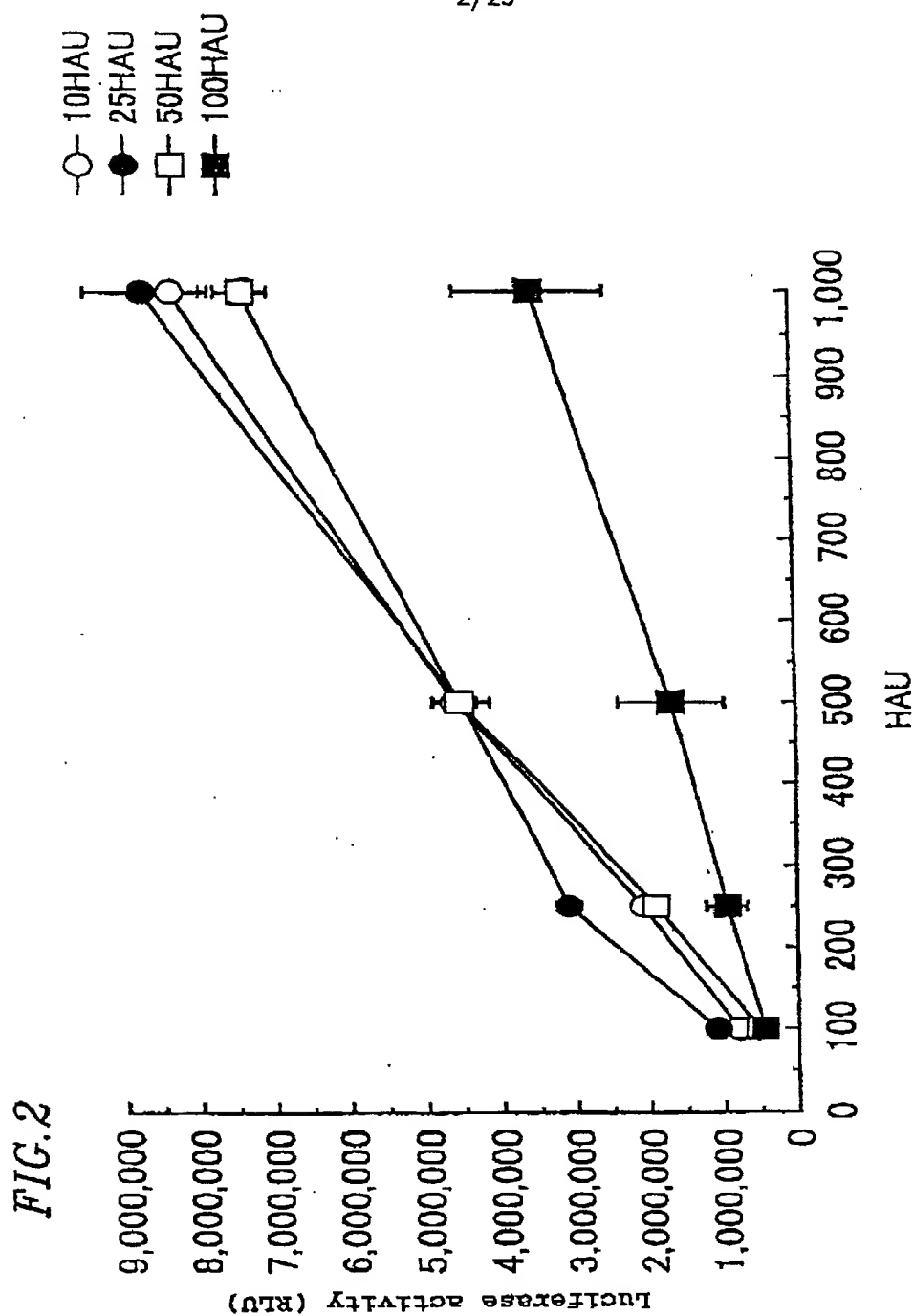
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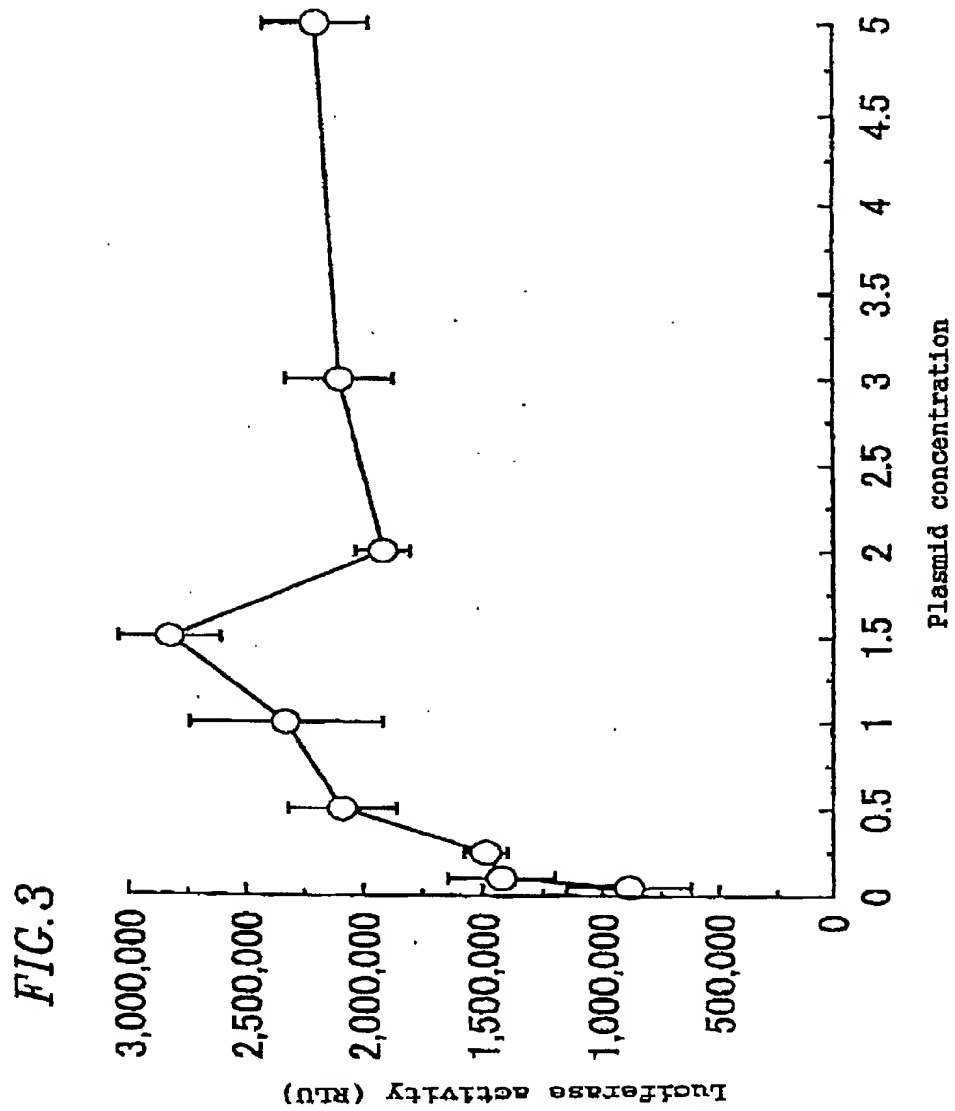
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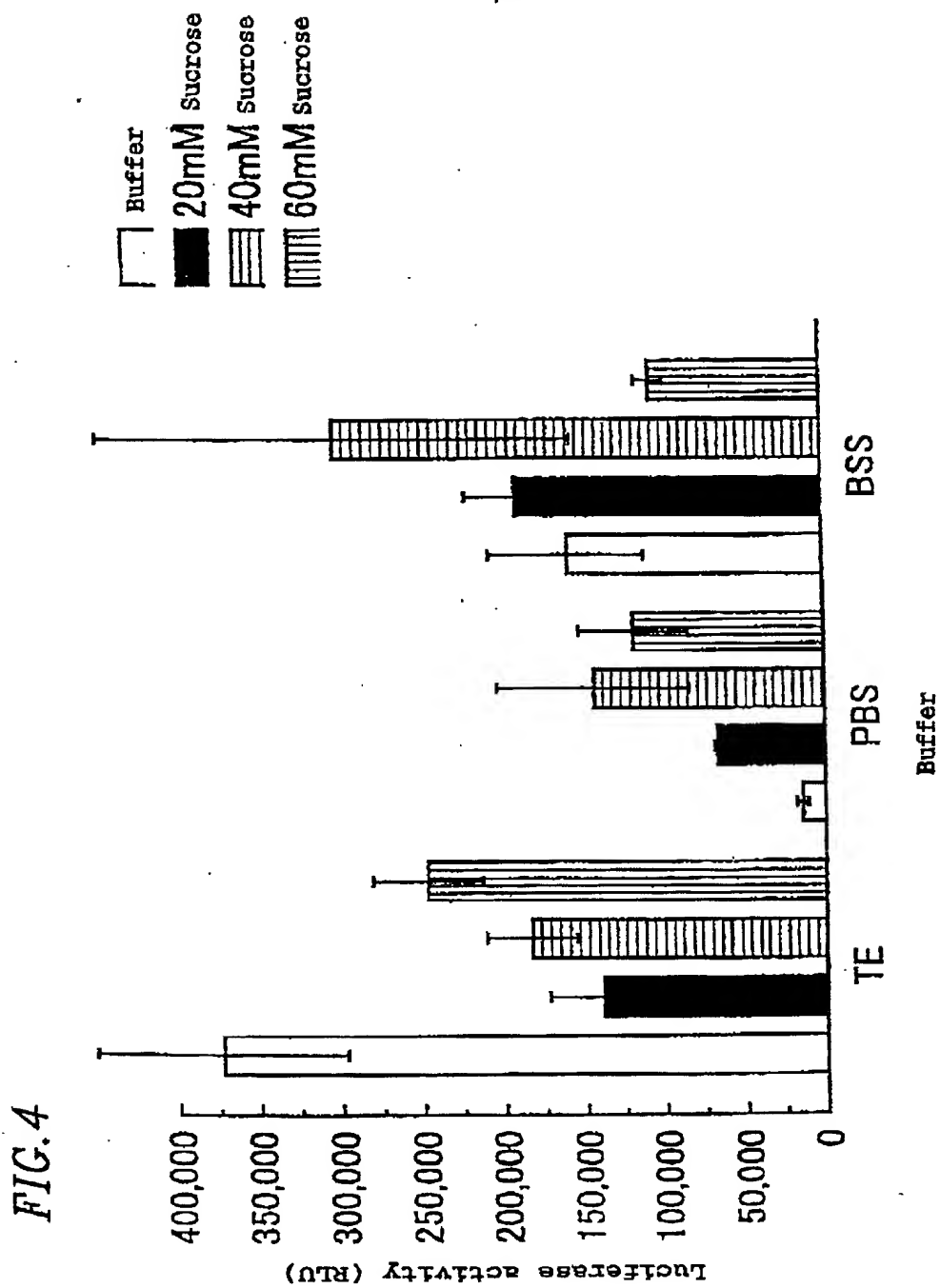
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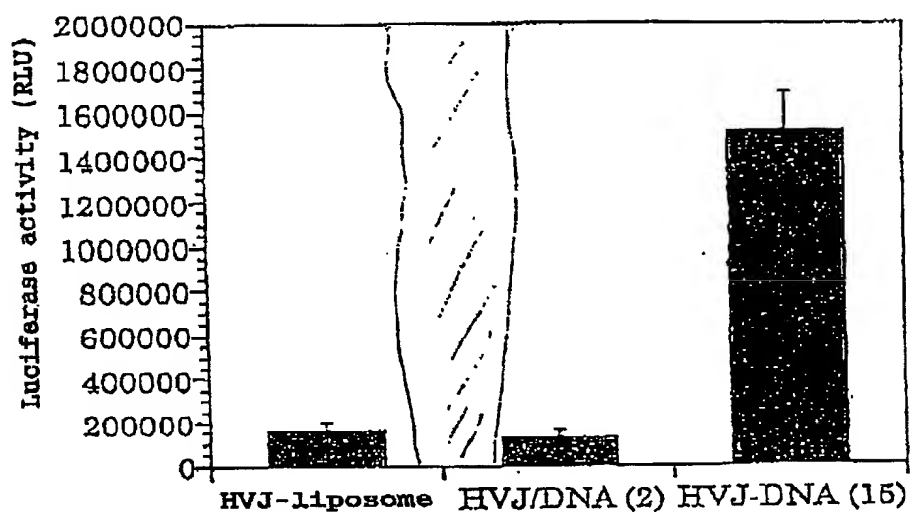
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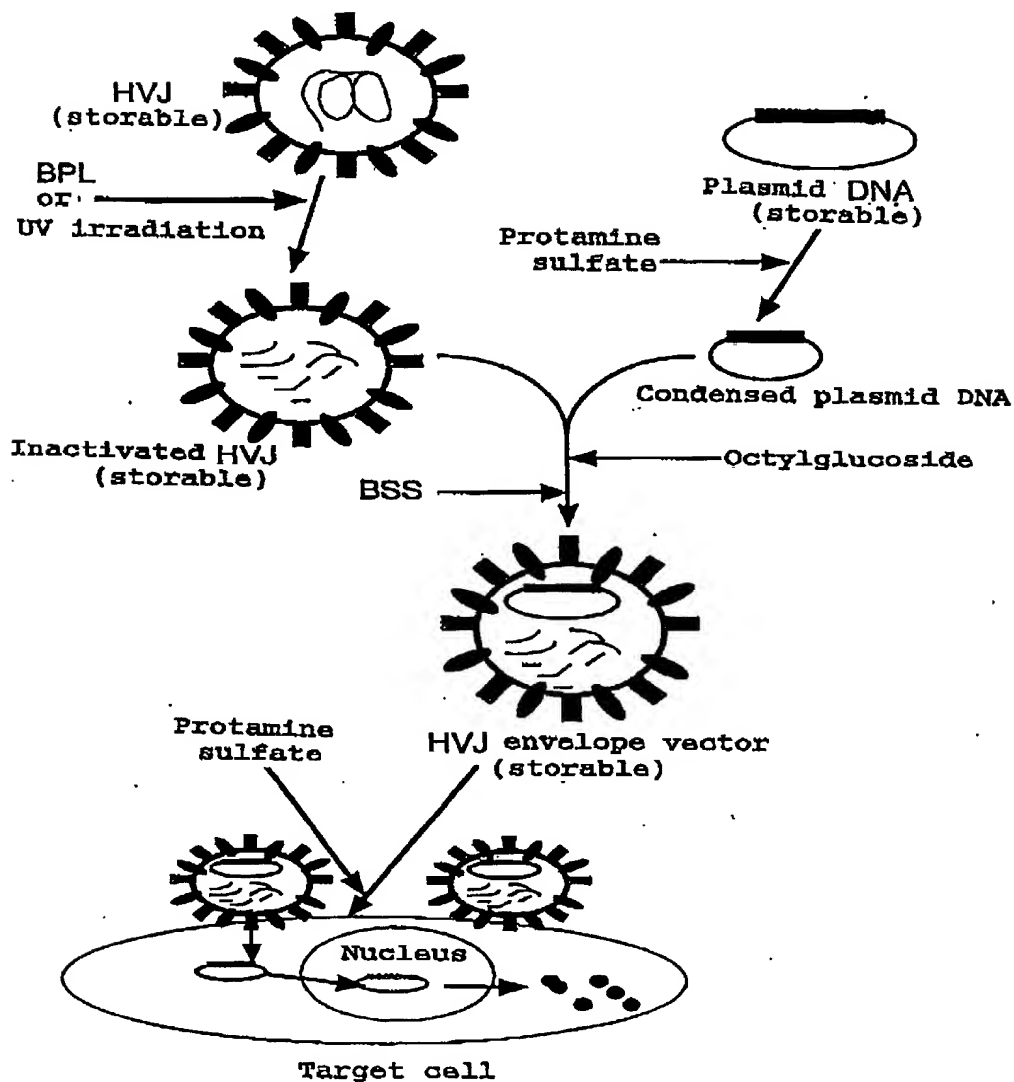
FIG. 5

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FIG. 6

Preparation of HVJ envelope vector

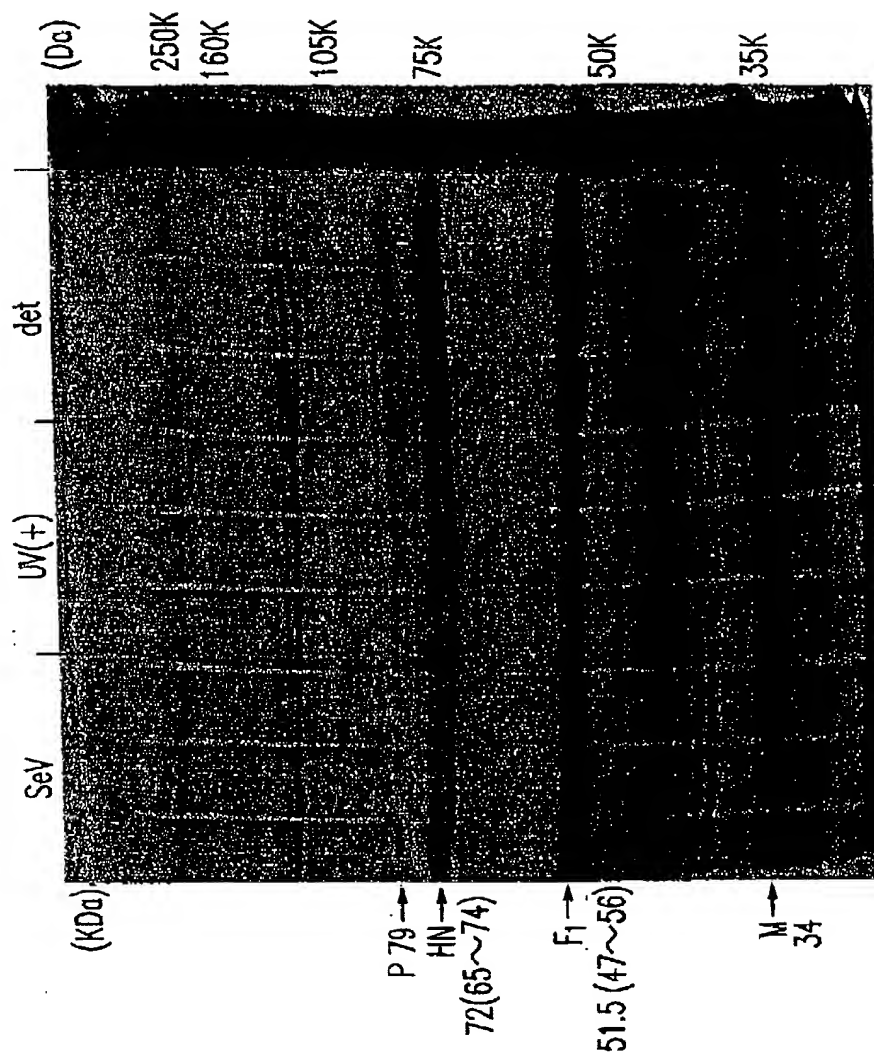


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FIG. 7

Protein profiles of HVJ, UV-inactivated HVJ,
and HVJ envelope vector



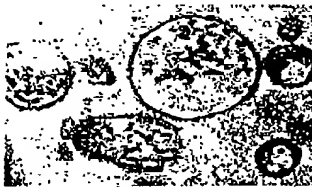
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FIG. 8

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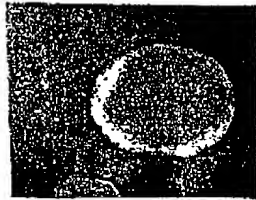
Electron micrograph of an HVJ envelope vector

(1) Untreated HVJ



100 nm

(2) HVJ containing no DNA, which was subjected to an octylglucoside treatment



(3) HVJ containing DNA, which was subjected to an octylglucoside treatment



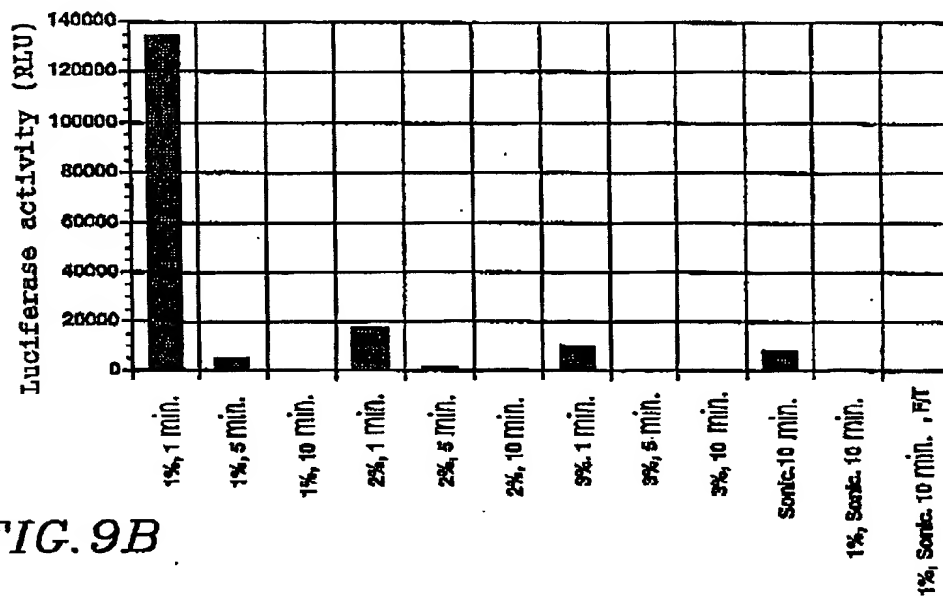
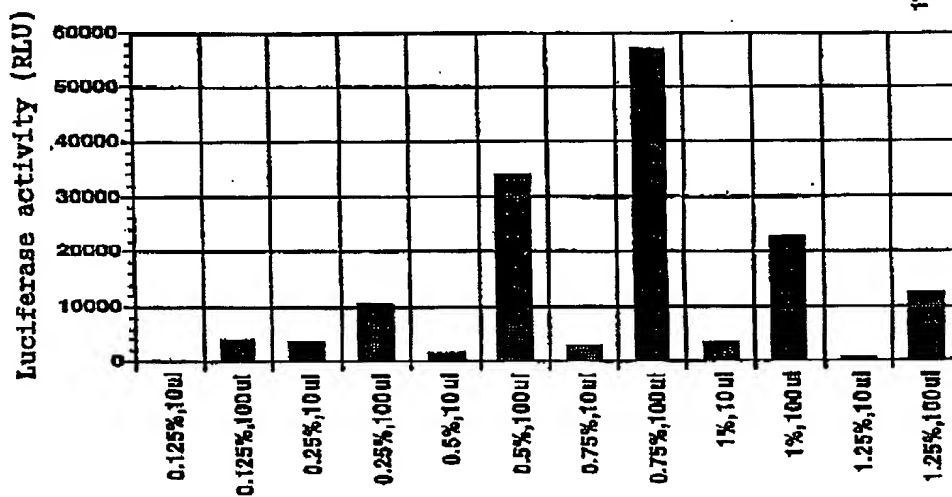
201220-688660

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FIG. 9A

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Effects of octylglucoside on gene transfer
by HVJ envelope vector

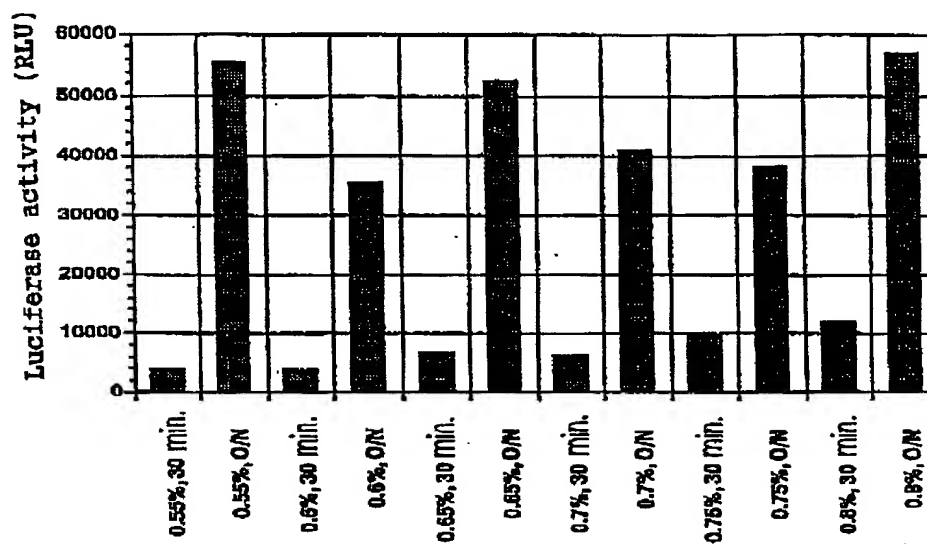
**FIG. 9B**

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FIG. 9C

Effects of octylglucoside on gene transfer
by HVJ envelope vector

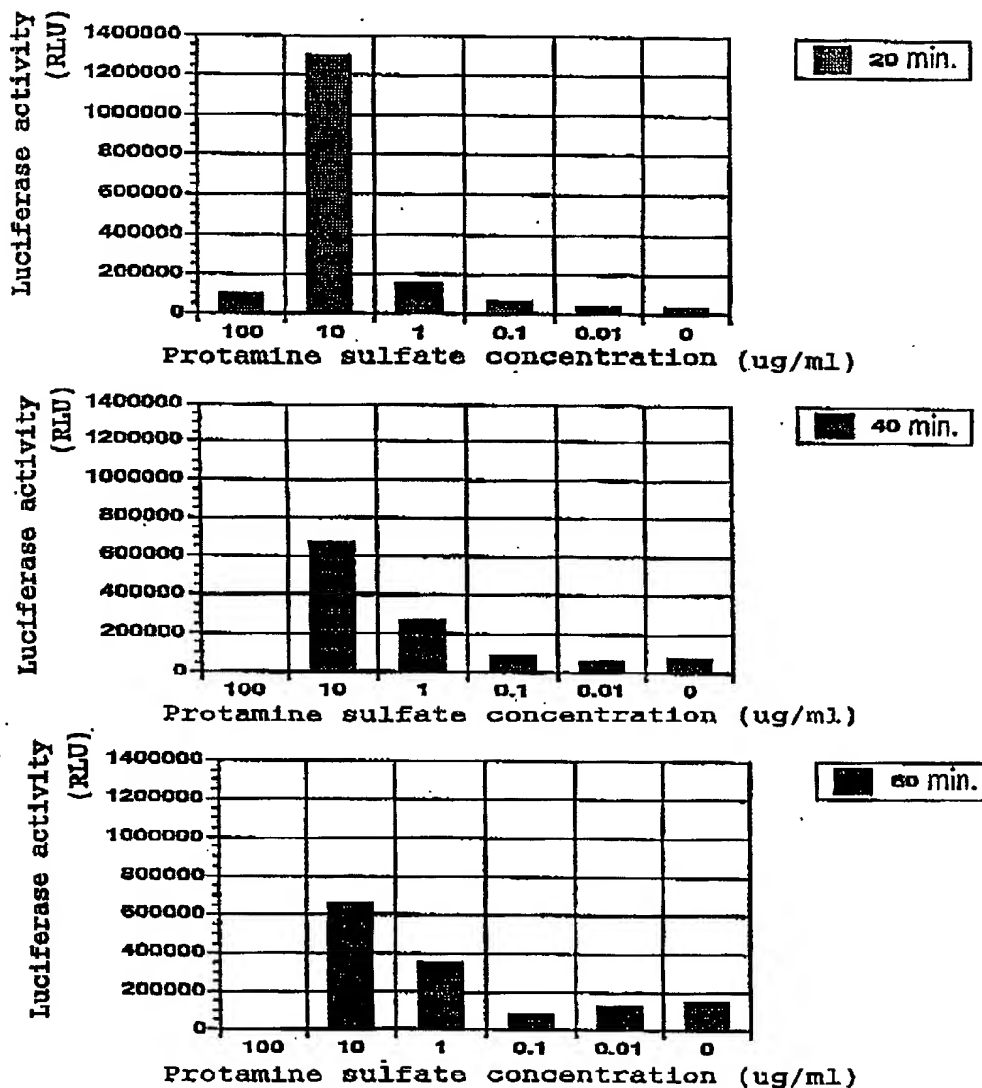


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FIG. 10A

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Effects of protamine sulfate on gene
transfer by HVJ envelope vector

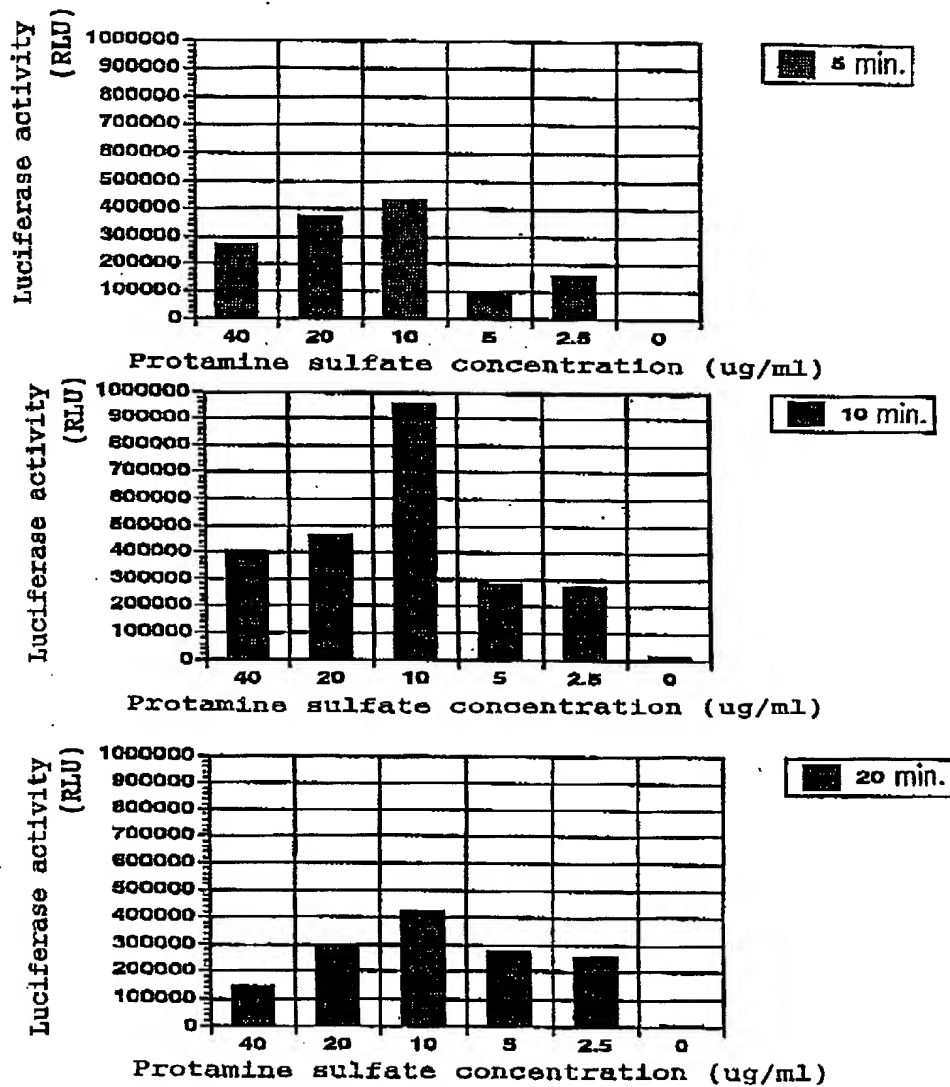


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FIG. 10B

Effects of protamine sulfate on gene transfer by HVJ envelope vector

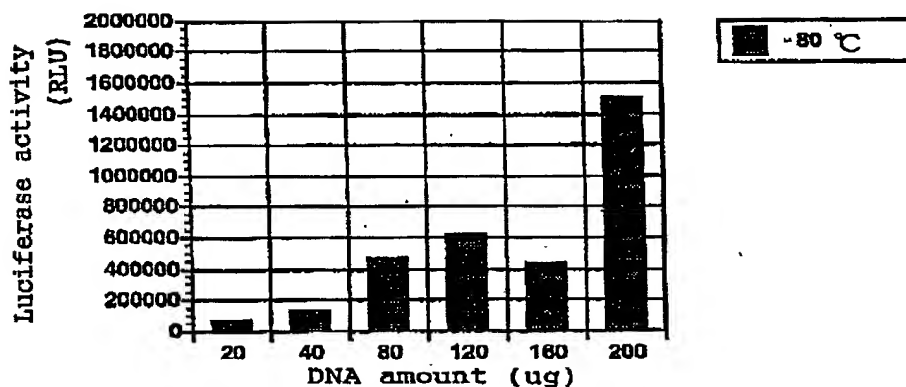
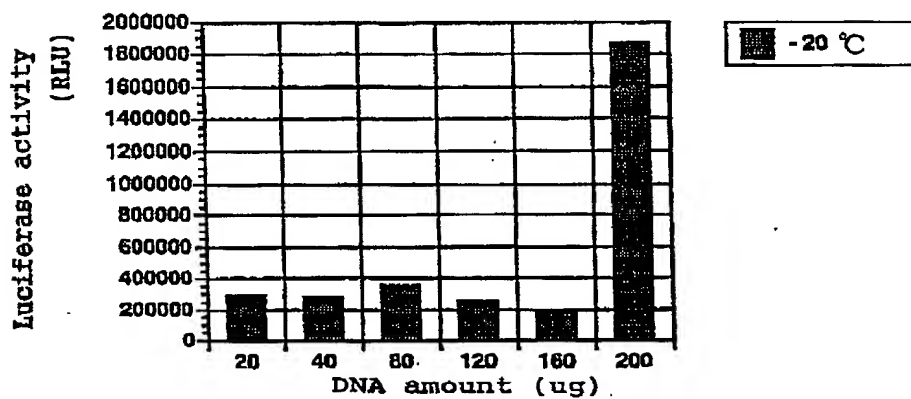


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FIG. 11A

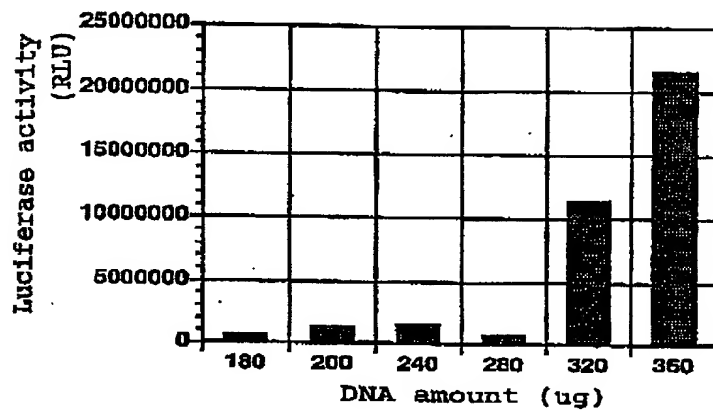
Effects of DNA amounts on gene expression using frozen HVJ envelope which has been treated with octylglucoside



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FIG. 11B

Effects of DNA amounts on gene expression
by HVJ envelope vector

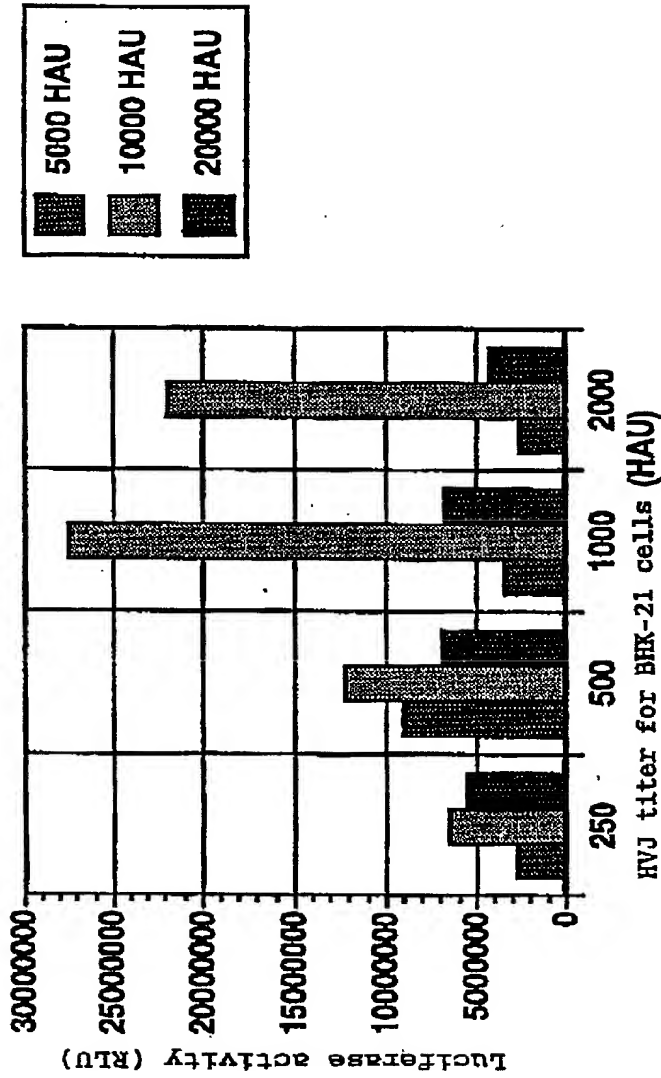


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FIG.12

Effects of HVJ titer on gene expression

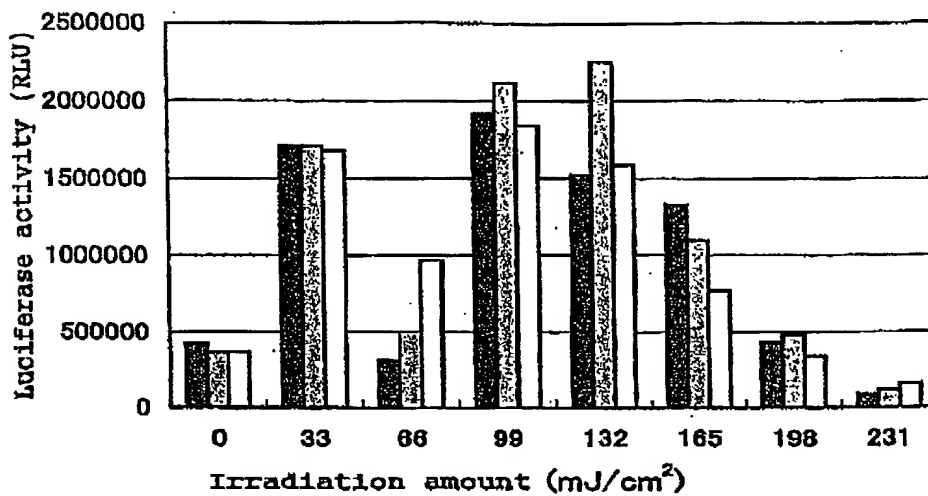
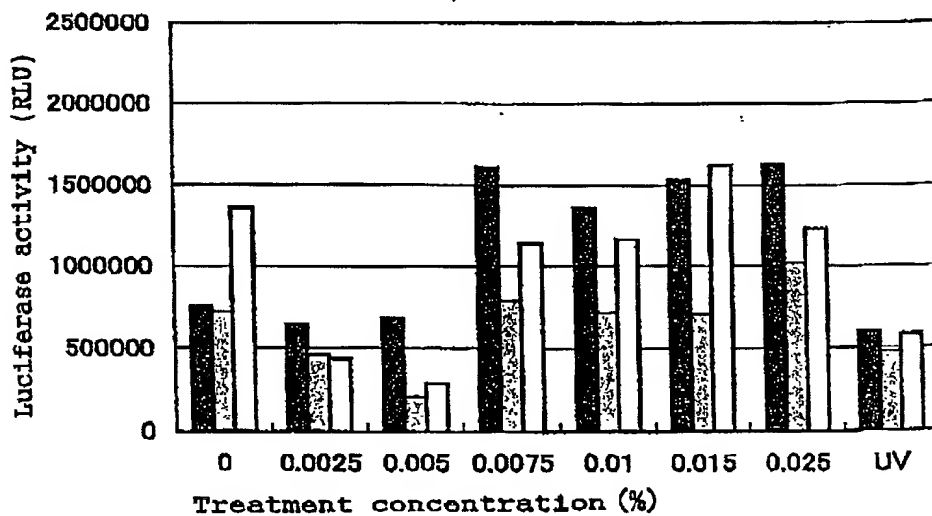


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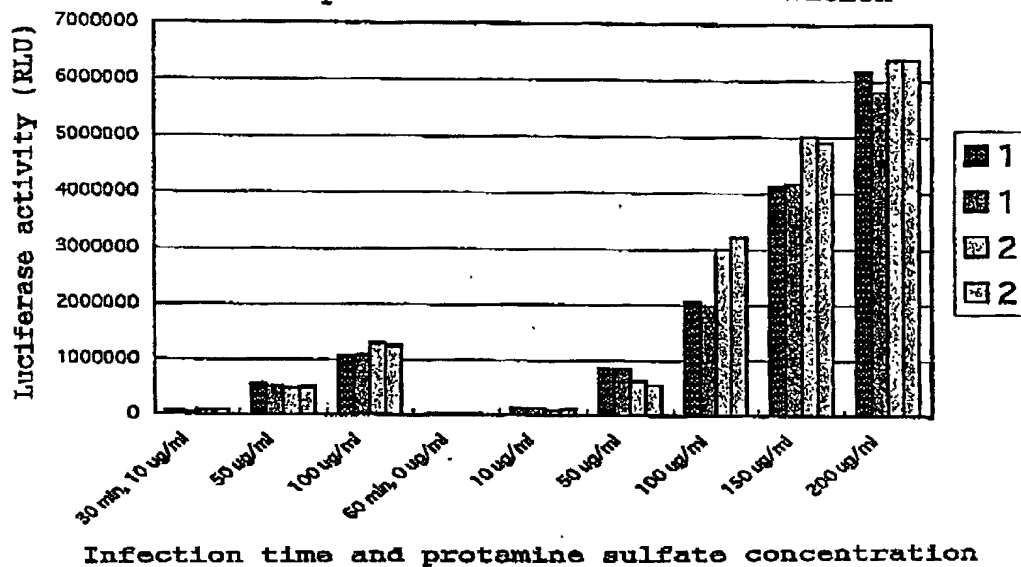
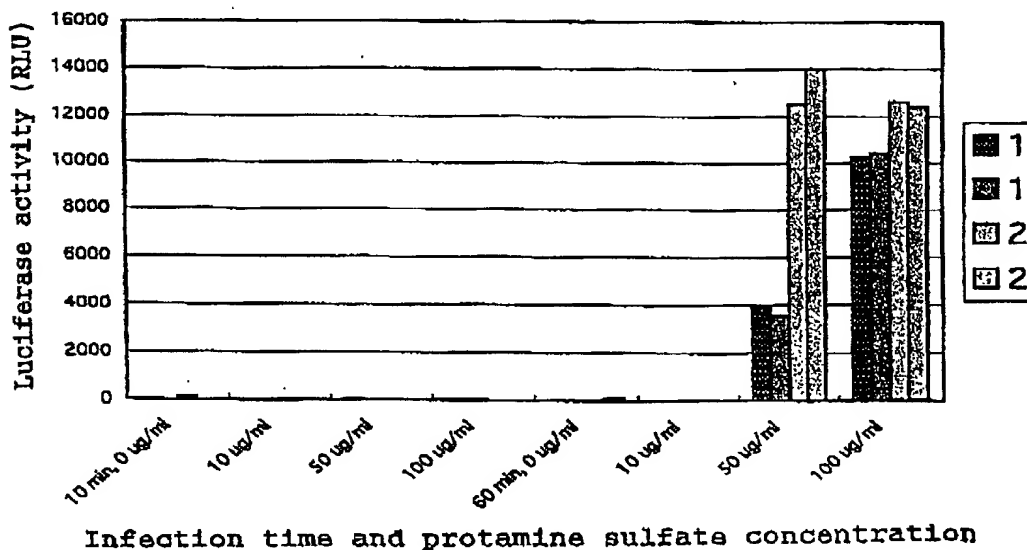
FIG. 13A

Study of irradiation amount in UV inactivation

**FIG. 13B**Study of treatment concentration
in SPL inactivation

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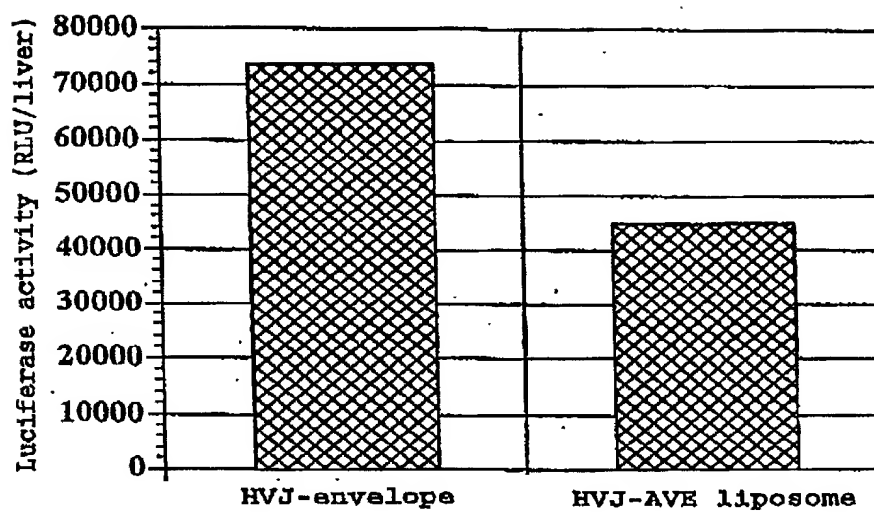
FIG. 14**SAS: Effects of infection time and protamine sulfate concentration****FIG. 15****HAEC: Effects of infection time and protamine sulfate concentration**

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FIG. 16A

Luciferase activity by HVJ envelope —
vector in mouse liver

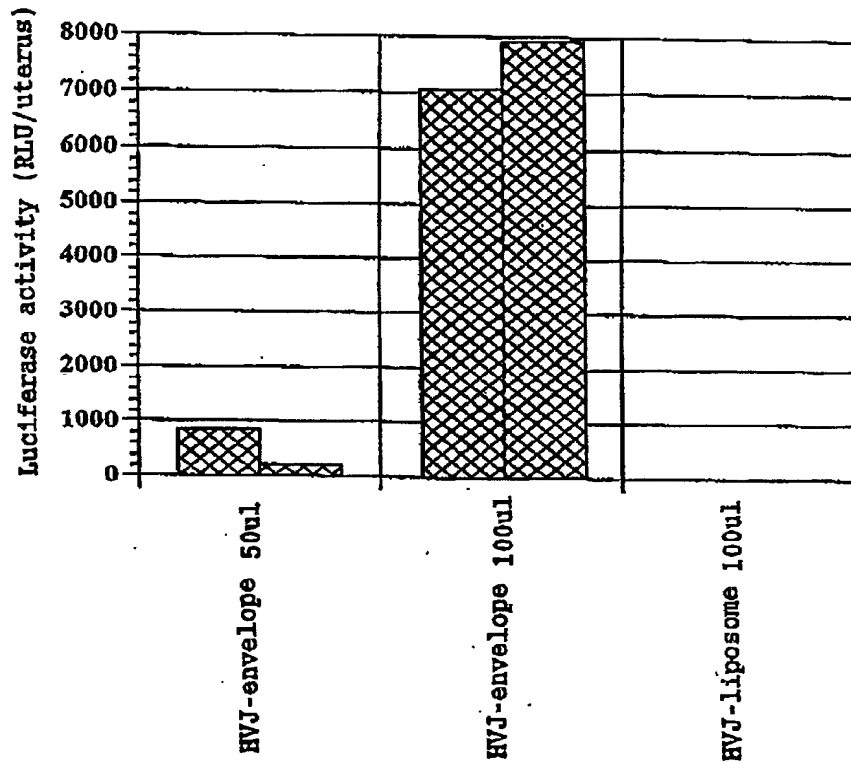


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FIG. 16B

Luciferase activity by HVJ envelope vector
in mouse uterus



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FIG. 16C

lacZ expression by HVJ envelope vector in mouse uterus



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FIG. 16D

Gene transfer into rat brain
Gene transfer into central nervous system using new HVJ

#1 HVJ-GFP

HVJ-GFP of 10,000 HAU was administered to SD rats (male, body weight: 300 to 400 g) via the cisterna magna or via the carotid artery. Samples were taken three to four days later.

Live sections were prepared, which were subjected to observation under fluorescence microscopy.

(administration via the cisterna magna) ①

Incorporation into the brain surface was confirmed.

No incorporation into deep portions of the brain was confirmed.

No incorporation into the choroid plexus was

confirmed, either. → administration via the cisterna magna is considered to result in permeation through the intrathecal space, so that expression is usually observed in the choroid plexus

(administration via the carotid artery) ②, ③

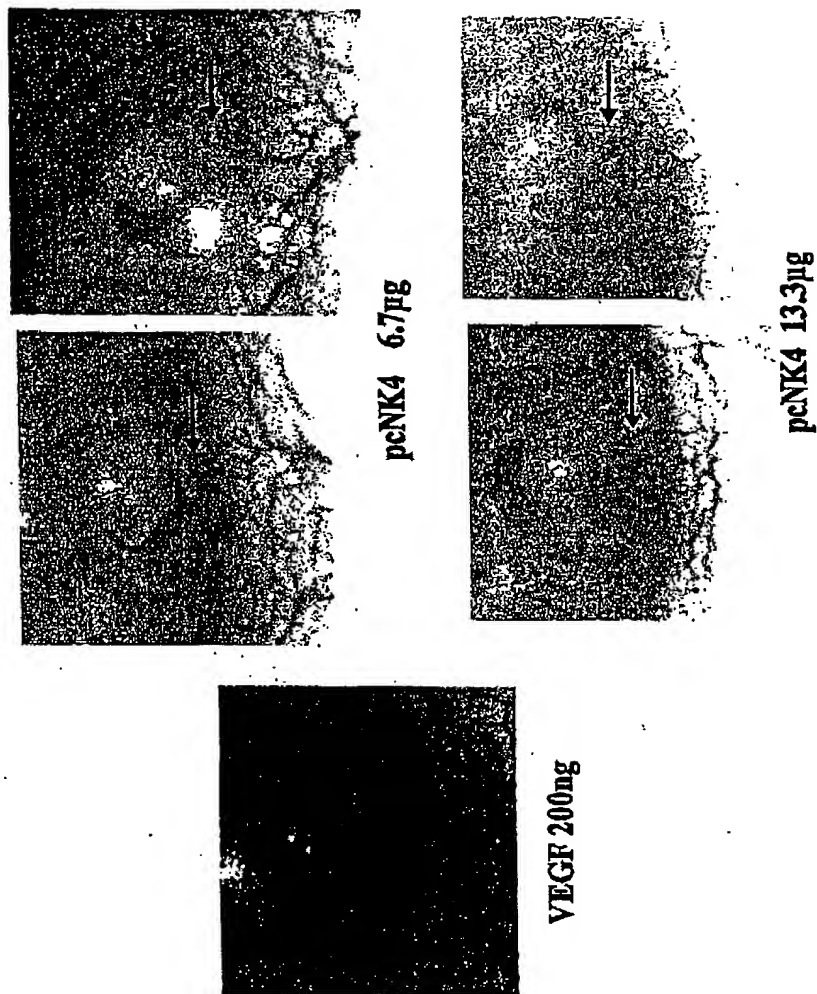
Significant expression was confirmed on the administered side (left side). Expression was confirmed not only in the brain surface portions but also in the basal ganglia portion. Expression was also confirmed in the brain surface of the other brain, which was considered to have resulted from a flow to the other side through a collateral flow.

② Administration via the carotid artery**③ Administration via the carotid artery****① Administration via the cisterna magna**

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FIG. 16E Inhibition of VEGF-induced angiogenesis
by gene transfer using HVJ



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FIG. 16F

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Introduction of FITC-ODN into BHK-21 cells by HVJ envelope vector

FIG. 17A

60 min

Fluorescence image



Phase-contrast image

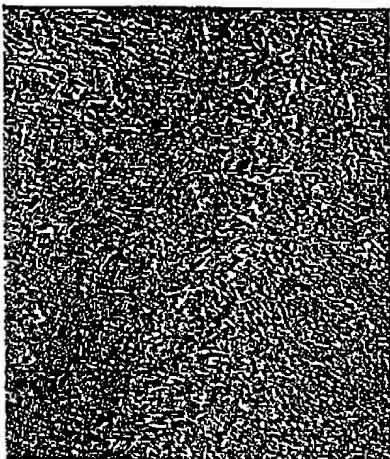
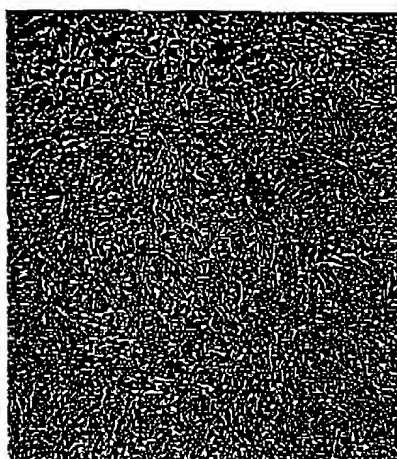


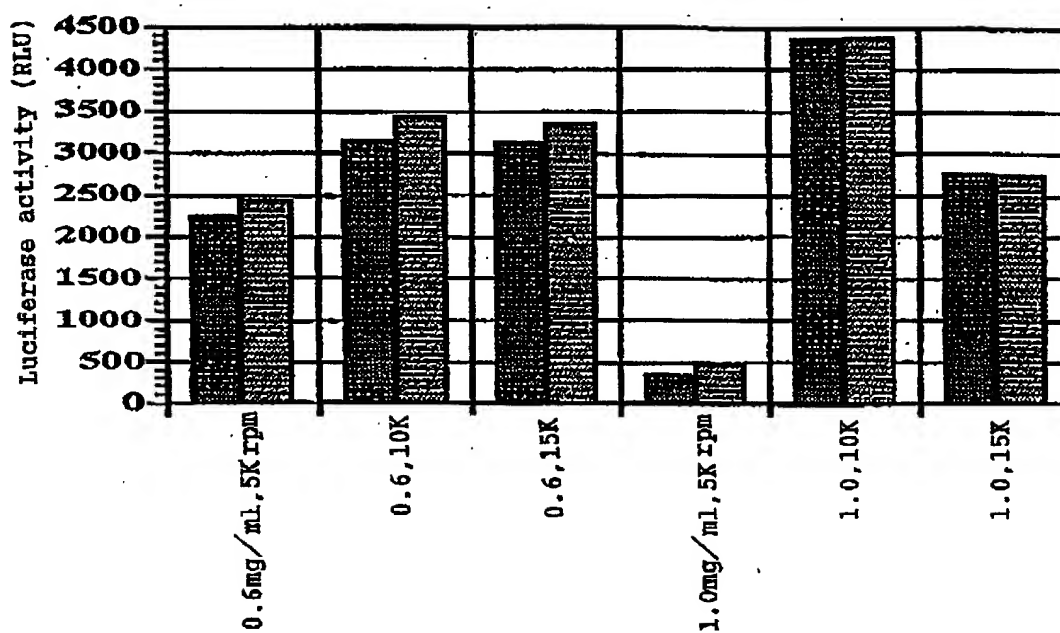
FIG. 17B

10 min



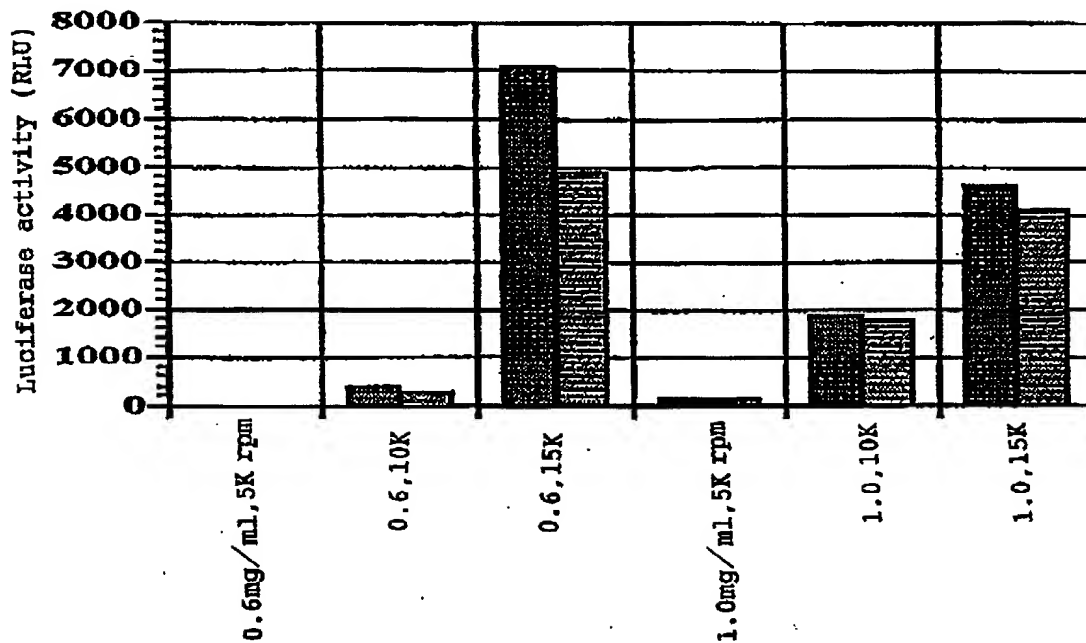
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FIG. 18AGene transfer into NALM-6 by
centrifugation with HVJ envelope

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FIG. 18BGene transfer into CCRF-CEM by:
centrifugation with HVJ envelope

Protamine sulfate concentration and centrifugation

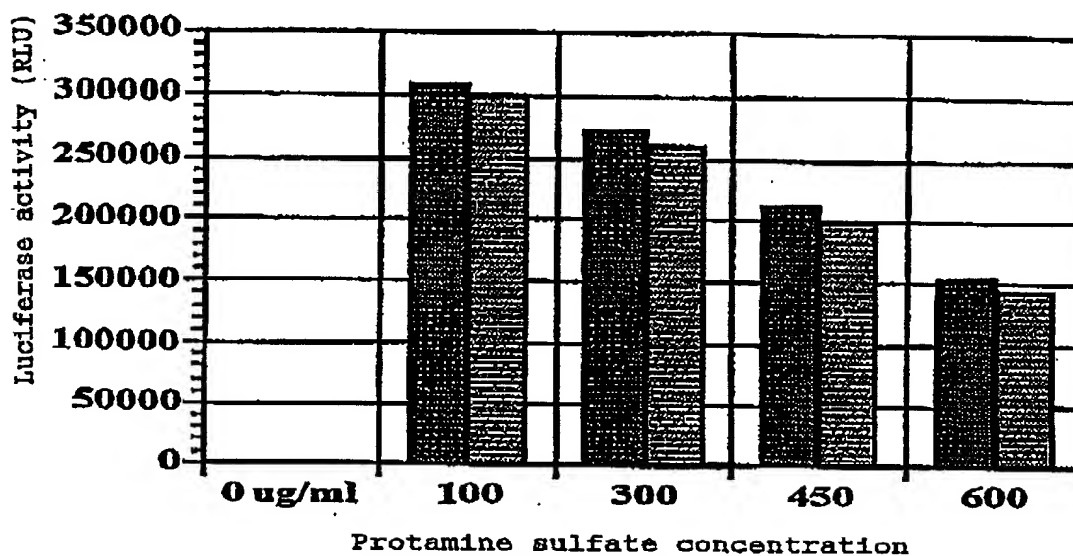
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FIG. 18CGene transfer into K-562 by centrifugation
with HVJ envelope

(15 K rpm, 10 min, 20°C)

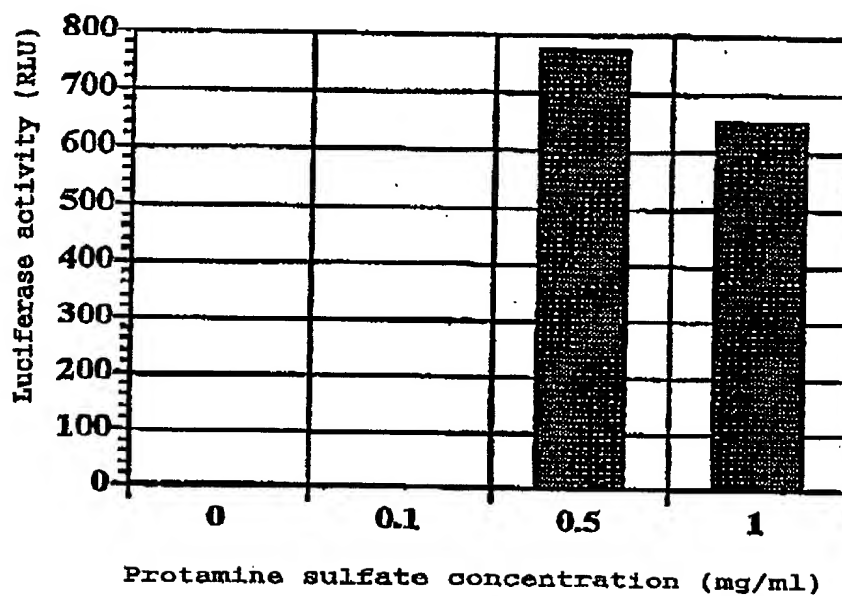


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FIG. 19

Gene transfer into mouse melanoma (B16-F1)
mass using HVJ envelope



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FIG. 20

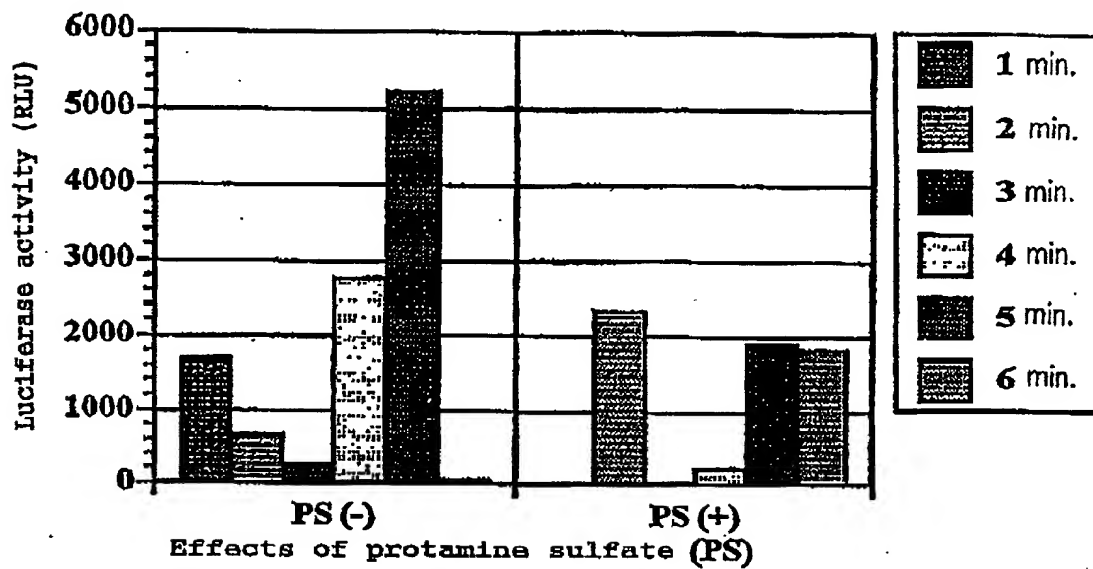


FIG. 21

